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ABSTRACT

A study examined the effectiveness of group and self-directed interventions for developing stress-coping resources among students in three associate degree nursing programs. The 46 students in the modified curriculum group received instruction in two stress-monitoring techniques and three tension control exercises. The second group (n = 61) experienced self-directed interventions, and the third group (n = 54) received no interventions. Each group completed the Coping Resources Inventory for Stress (CRIS) at the beginning and end of their first nursing course. A multivariate analysis of variance performed on the three groups' mean gain scores on the CRIS scales (confidence, structuring, stress monitoring, problem solving, and tension control) confirmed that the interventions resulted in significant improvements in the nursing students' ability to cope with stress. A univariate analysis of variance showed significant differences at the .05 level in the mean gain scores for stress monitoring between the modified curriculum and control groups and for tension control between the modified curriculum group and the self-directed and control groups. Of the 68% of students in the modified curriculum intervention group who completed a stress-coping resources evaluation form, 69% planned to use their training in their upcoming classes. (Contains 13 references.) (MN)

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1994 Annual Meeting of the American Educational Research Association in New Orleans :
SIG Occupational Stress and Health

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A PAPER PRESENTATION:

A COMPARISON OF THE EFFECTS OF INTERVENTIONS ON STRESS COPING RESOURCES OF BEGINNING ASSOCIATE DEGREE NURSING STUDENTS

By

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A SUMMARY OF THE PAPER PRESENTATION:

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THE PROBLEM

~ Nursing curriculum has minimal content addressing the development of stress coping resources of nursing students.
~ The need for stress coping resources is evident.
~ The need for nurses to have stress coping resources is essential since high levels of stress are reported in the practice of nursing.

RESEARCH QUESTION

Will different approaches for the development of stress coping resources of beginning associate degree nursing students in three nursing schools produce different mean gain scores of five measured stress coping resources?

MEASURED COPING RESOURCES FOR STRESS

- *Confidence*
- *Structuring*
- *Stress Monitoring*
- *Problem Solving*
- *Tension Control*

Multivariate Research Hypothesis

1. There will be a significant difference between groups on the population mean gain score vector of the CRIS scales: confidence, structuring, stress monitoring, problem solving, and tension control.*

Univariate Research Hypotheses

1.1 The confidence mean gain scores of the three groups will be significantly different.

1.2 The structuring mean gain scores of the three groups will be significantly different.

1.3 The stress monitoring gain scores of the three groups will be significantly different.*

1.4 The problem solving mean gain scores of the three groups will be significantly different.

1.5 The tension control mean gain scores of the three groups will be significantly different.*

* Significance level $p < .05$

Quasi-experiment Design:
Three Group Pretest & Posttest

Group	Pretest	Treatment	Posttest
1	O_1	X_1	O_2
2	O_1	X_{2R}	O_2
3	O_1	$_R$	O_2

Groups: 1 = modified curriculum group
2 = self-directed group
3 = control group

Observations:
O_1 = Coping Resources Inventory for Stress (CRIS) administered
O_2 = CRIS administered

Treatments:
$_R$ = randomized assignment of either treatment X_2 or no treatment
X_1 = CRIS interpretive report with discussion, curriculum interventions in caring group activities, stress coping resources (SCR) library and development (SCRD) contract

X_2 = CRIS interpretive report *without* discussion and SCR library

Treatments for Stress Monitoring & Tension Control

- curriculum interventions
  - ~ stress monitoring
    - one minute body scan
    - stress coping resource development contract
  - ~ tension control
    - one hour skills lab for therapeutic massage
    - pre-exam two minute relaxation period over 10 weeks
    - instructions and practice in relaxation exercises
      - = deep breathing x 3
      - = totally tense for 10 seconds & relax
      - = audiotape, about 12 minutes, with exercises in: deep breathing, muscle relaxation, guided imagery, & positive affirmations

Summary: Significant Differences

Variable	Groups[a]	Significance Level
Stress Monitoring	1 & 3	$p < .05$
Tension Control	1 & 3 1 & 2	$p < .05$ $p < .05$

[a]Groups for pretest and posttest participation:
Group 1 = modified curriculum group
Group 2 = self-directed group
Group 3 = control group

Conclusions & Educational/Scientific Importance

1. Quick, simple interventions in the curriculum made a significant difference in nursing students' abilities to develop two stress coping resources: stress monitoring and tension control during the initial quarter of their educational program.

2. The brief, practical interventions with scheduled time into the curriculum was beneficial to students; this action conveyed to them and to faculty a need for and a value in the development of stress coping resources.

3. The results support the notion that stress coping resources are modifiable through training.

4. The package approach of instruction, practice exercises, a contract and a resource library resulted in a significant difference between groups.

5. Further research is indicated in the area of curriculum organization for different, more effective and less stressful ways to introduce essential content and clinical experiences.
   - ~ reading assignments - all pages vs. critical pages
   - ~ activities - quality vs. quantity
   - ~ results of change - policies/procedures: obsolete, redundant vs. current with practice
   - ~ individual needs - learning styles, cultural differences, finances

6. Research with faculty/students for the identification of which instructional activities are most beneficial and have a low to moderate effect for stress production.

A paper presented at the 1994 Annual Meeting of the American Educational Research Association in New Orleans : SIG Occupational Stress and Health by:

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A COMPARISON OF THE EFFECTS OF INTERVENTIONS UPON STRESS COPING RESOURCES OF BEGINNING ASSOCIATE DEGREE NURSING STUDENTS

Need for Research Related to Occupational Stress

I have been a registered nurse for over 21 years. I continue to work at the bedside to care for patients. I continue to design, present, and evaluate nursing programs in the academic and nonacademic settings.

I believe nursing educational programs achieve the purpose to develop students and nurses with expert knowledge, skills, and attitudes for the care of patients. I believe a void exists in these programs for the development of students and nurses with the knowledge, skills, and attitudes to care for themselves.

Nursing education and practice settings have a multitude of stressors. I have experienced and dealt with these stressors. I have observed healthcare colleagues, nursing and nonnursing, become so frustrated. Common comments overheard included: "I can deal with taking care of patients; it's the putting up with the other stuff." "I know I can not change certain aspects. I do not know

how much longer I can deal with the stress." The outcome is healthcare workers who leave their profession.

A review of the nursing literature confirms that stress in nursing is innate and a constant theme for registered nurses and nursing students. Research has focused on the stressors, the stress levels of nurses, 'burnout', and nurses reaction to stress. This is a reactive approach.

Nursing leaders have recommended stress management programs for students. Little attention has been given to the teaching of stress coping skills in nursing programs. The effect of interventions on the development of stress coping resources has not been investigated.

Purpose of the Study

The purpose of this study was to investigate the effects of interventions upon stress coping resources of beginning healthcare professionals at the college level. One main objective was to identify if different interventions would make a significant difference in the development of stress monitoring and tension control. A cost-benefit objective was to determine if time given to stress coping resources in the nursing curriculum was beneficial to the students when compared to self-directed study or no information being given.

Theoretical Framework

Stressors in registered nurses have been identified as one of the top 10 research priorities for the 1990's (Lewandowski & Kositsky, 1983). The individual's approach to stressful situations and the ability to find successful

nursing students may need to make mid-life adjustments which influence their reactions to stressful experiences. Common reactions for nursing students in the work setting are feelings of anxiety. These feelings of anxiety, intrinsic to a student role, magnifies any feelings of insecurity and oppression (Davidhizer, 1989). Thus, older nurses and nursing students have higher risks for increased stress in the work environment.

Cannon (1932), a noted physiologist, described the body's response to a real or imagined threat as a stress reaction. Coping resources negate and halt the effects on the stress response and lower the hyperarousal associated with the stress response (Cannon, 1932). Coping resources, or the perception of coping resources, can minimize a negative stress response and maximize adaptive energy (Greenberg, 1987; Smythe, 1984). Stress coping resources are modifiable through training (Cannella, 1987; Curlette, Aycock, Matheny, Pugh, & Taylor, 1989).

Two hypotheses of this study explored the inclusion in the nursing curriculum of stress coping resources development activities to facilitate the development of stress monitoring and tension control. These stress coping skills would result in students who would more readily recognize when they were stressed and they would act to minimize the stress response.

Methods

After a review of the results of their Coping Resources Inventory for Stress, the students were instructed in stress monitoring and tension control exercises. The two interventions for stress monitoring in the modified curriculum were: a one

minute body scan and the completion of a Stress Coping Resources Development contract (SCRD). A sample of the contract is attached. These interventions had taken approximately 15 minutes for the contract explanation and the instruction and practice of the body scanning exercise. The instruction for the three interventions for tension control in the modified curriculum were student participation in: 1) a two minute quiet time and relaxation period before each exam for the 10 week quarter, 2) a one hour skills lab for learning therapeutic head, neck, and shoulder massage, and 3) a one time instruction session of about 45 minutes for relaxation exercises. The instructional relaxation exercises were done within the first three weeks of the quarter with groups of 10-12 students sitting in a circle. Those choosing not to participate were asked to sit quietly in the same room. Prior to the exercises they were asked to close their eyes and assume a sitting position with both feet on the floor, buttocks to the back of the chair and hands on the desk or their lap. The exercises included: 1) deep breathing 3 times, 2) totally tensing the body for 10 seconds then relaxing, 3) scanning the body head-to-toe for any remaining tense muscles then relaxing them, and 4) listening to a 12 minute audiotape which combined deep breathing, muscle relaxation, guided imagery, and positive affirmations. These initial class activities were supplemented with individual and small group enrichment throughout remainder of the quarter. The students were encouraged to do at least one intervention daily and to use the resources from the stress coping library in the school of nursing.

Subjects and Research Design

A pretest/posttest quasi-experimental design was used with intact groups from three associate degree nursing programs. Each group completed the instrument, Coping Resources Inventory for Stress (CRIS) -- Form A, at the beginning and the end of the first nursing course. The modified curriculum group (n = 46) experienced interventions for the development of stress coping resources in the initial nursing course. The second group (n = 61) experienced self-directed interventions and the third group (n = 54) encountered no interventions.

Results

Multivariate analysis of variance on the three groups' mean gain scores of the CRIS scales: confidence, structuring, stress monitoring, problem solving, and tension control was found to be significant (p = .012). Univariate analyses of variance showed significant differences at the .05 level in the mean gain scores for stress monitoring between the modified curriculum and control groups and for tension control between the modified curriculum group and the self-directed and control groups. Comments on the SCRD contract were manually summarized and common themes extracted.

Williams (1993) suggested that an evaluation component be included when curriculum interventions are used to deal with student concerns. A total of 68% of the subjects in the modified curriculum intervention group completed a stress coping resources evaluation form. Comments were that the interventions were helpful, interesting, and worthwhile. A total of 69% planned to use the

information gained from the interventions the following quarter. In general, positive physical and mental activities were consistently reported as being used by the subjects to deal with the effects of stressors in nursing school.

Conclusions and Educational/Scientific Importance

Curriculum interventions for beginning associate degree nursing students resulted in a measured increase of stress monitoring and tension control coping resources. This study supports the conclusion that the stress monitoring and tensions control interventions in the modified curriculum group enhanced the students' ability to deal with stress by lowering their state of arousal through relaxation procedures and thought control. McConnell (1982) stated that the awareness of stress and the perception of having coping resources can influence the achievement of effective responses. The study results support the idea that the students who experienced the modified curriculum component had a heightened awareness of the presence of their stress reactions and were more likely to do something to lesson their stress response than the other students with no or self-directed interventions.

The significant differences between the groups in the development of stress monitoring and tension control supports the notion that stress coping resources are modifiable through training. The major themes extracted form the qualitative question of what was most helpful to decrease stress levels were:

- receiving support from their family and other students in the same situation
- relaxing by deep breathing and a quiet time

~ doing physical activity such as exercise, walking or hunting

~ adjusting to emotional and psychological attitudes to accept lower self expectations, to take one day at a time, to accept less than perfect, and

~ increasing awareness of the early signs of the effects of stress.

Based on these comments and prior findings of Greenberg (1987) and Smythe (1984) one may conclude that these students had some control over their stress response; they may not have perceived the reasonable requests from other as unreasonable demands on their time and energies.

The educational importance of these results may be extended across to others with occupational stress. The quick, simple interventions for stress monitoring and tension control might be included in similar initial education programs. The results supported a positive cost-benefit ratio of minimal time required for the brief, practical interventions. The package approach of instruction, practice exercises in a group, a contract, and the availability of a stress coping resources library took minimal time and energy for faculty and students.

Further research in the curriculum of stressful occupations is indicated for the investigation of different, more effective, and less stressful ways to introduce and apply essential content in the class and the clinical settings. Extracted from students responses of what was most stressful during the 10 week quarter, the following areas are suggested for research of effects from stress responses in faculty members and students:

reading assignments - all pages vs. critical pages

activities - quality vs. quantity

results of change - policies/procedures: obsolete, redundant vs. current with practice

individual needs - learning styles, cultural differences, finances.

Healthcare education programs commonly achieve the purpose to develop students into practitioners with expert knowledge, skills, and attitudes for the care of clients. A void may exist in these programs for the development of students into practitioners with the knowledge, skills, and attitudes to care for themselves. In addition, people who are already in the workplace that invokes occupational stress may need training to care for themselves by controlling their stress responses and their perceptions to deal with stress. The outcomes of stressed students and workers is that they leave. People who have occupational stress need the development of coping resources to maintain job efficiency and effectiveness with a goal of minimal employee turnover. Similar training as in this study might begin upon entry into the education and workforce settings. Is it not the purpose of education in the academic and workplace settings to develop expert practitioners who have the knowledge, skills, and attitudes to care for themselves as well as their clients?

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